

ABSTRACT

The present invention provides an improved method of measuring analytes in body fluids without the use of a sharp. The method having the steps of irradiating the skin of a patient by focused pulses of electromagnetic energy emitted by a laser. By proper selection of wavelength, energy fluence, pulse temporal width and irradiation spot size, the pulses precisely irradiate the skin to a selectable depth, without causing clinically relevant damage to healthy portions of the skin. After irradiation, interstitial fluid is collected into a container or left on the skin. The interstitial fluid is then tested for a desired analyte to approximate the analyte concentration in other body fluids. Alternatively, after the forced formation of a microblister, the epidermis covering the microblister is lysed and the interstitial fluid is subsequently collected and tested.